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Dewey, democracy and interdisciplinary learning: A Scottish perspective

Abstract

Interest in progressive education ideas has often been accompanied by advocacy for greater use of interdisciplinary and holistic learning approaches, as these are considered beneficial in conceptual, curriculum and pedagogical terms. The paper reviews the possibilities for progress on this basis and contextualises the paper around three concurrent watershed moments in Scottish education: the end of the five-year programme implementation phase of a Curriculum for Excellence; the half-century anniversary of comprehensive schooling (1965-2015); and the centennial anniversary of the publication of *Democracy in Education* by John Dewey. Following a brief outlining of the Scottish policy context, the paper analyses the influence of Dewey on conceptions of curriculum integration and interdisciplinary learning and their connections with curriculum planning, effective pedagogical practices and whole school reforms. Analysis describes the areas of conceptual clarity required and reviews how exactly versions of interdisciplinary learning might operate in practice. It is argued that the learner-led ideals championed by Dewey can still provide guidance and traction to help ensure that policy and practice gains are more than modest and variable. However, progress is likely to be greatest if school organisational changes accompany alterations to the curriculum and pedagogical culture in schools.

Key words: Dewey, Democracy, Interdisciplinary Learning

Introduction

The Scottish Government's (2008) Building the Curriculum 3: A Framework for Teaching and Learning clarifies the policy support there is currently for interdisciplinary and holistic learning approaches as a beneficial method for enhancing learners' experiences. Furthermore, a recent Organization for Economic Co-operation and Development (OECD) (2015, p. 9) report on improving schools in Scotland, highlighted that Curriculum for Excellence (CfE) 'is an important reform to put in place a coherent 3-18 curriculum ... (as it) ... privileges learning and holistic understanding of what it means to be a young Scot growing up in today's world.' The current time is therefore considered as a '*watershed*' moment (OECD, p. 100) for CfE, as policy has moved from a broad set of aspirations in 2010-2011 to a time when the five-year programme implementation process is nearing completion. Thus, there is considered to be a major opportunity to enter a new phase with a heightened focus on more dynamic learning and teaching built around 'an ambitious theory of change' (OECD, 2015, p. 11). Whatever changes this might involve it is highly likely to take place within comprehensive schooling structures, with primary schools for learners between 5-11 years and secondary schools for learners until 16 years old, with the majority of learners opting to remain in full-time secondary education until 18 years old. For unlike in England, where 'comprehensive is the type (of school) that dare not speak its name' (Courtney, 2015, p. 16), in Scotland market models of education 'run against the grain ... (as) ... democratic values, comprehensive schools, equality of access and positive discrimination have long been distinguishing hallmarks of national and local authority policies' (MacBeath, 2013, p. 1014). Scotland, therefore, remains committed to a universal system of free comprehensive secondary schooling for around 95 percent of secondary-age children (Roberts, 2013). As Bryce and Humes (2013, p. 51) note, the uniformity of comprehensive provision can be viewed as an expression of Scottish unity and identity 'as a reflection of democracy and communal solidarity and ... demonstration that opportunities to succeed should be available to all.'

The first half-century of comprehensive schooling in Scotland (1965-2015) - *a second watershed moment* - has consequently shown that the idea of comprehensive education 'is still a valuable concept for analysing, inspiring and guiding education systems and for exploring their possible future directions' (Murphy, Croxford, Howieson & Raffe, 2015b, p. 205), as the three underpinning values of comprehensive schooling - liberty, equality and fraternity - are 'no different from those of democratic life more generally' (Murphy, Croxford, Howieson & Raffe, 2015a, p. 46). Liberty is seen as championing learners' autonomy and their chance (in part) to choose opportunities which reflect their interests. To counteract choice and autonomy leading to unequal outcomes, comprehensive schools need to balance liberty with equality in order to show evidence of fairness. Thus, it is equality of value which is predominantly emphasised relative to equality of opportunity and equality of outcome (Murphy et al., 2015a). Fraternity, the third principle of comprehensive schooling (and something of an uncommon term nowadays) references the school community need to focus on relationships and shared identity, and the values and interests which promote a plural society. Collectively, the intention is that these three interlocking values of democracy can complement each other, as in comprehensive schools 'the diversity of the community is more fully represented than in more homogenous schools where there is an element of selection by faith, ability to pay, or through some form of academic test' (Murphy et al., 2015a, p. 46).

This relatively upbeat elaboration on educational values is only partially shared by Paterson (2014), as he considers that it was only until the mid-point of the first half-century of comprehensive schooling (i.e., around 1990) that there was a widening of a 'traditional liberal curriculum of a predominantly intellectual character ... of the kind that could provide a secure basis for democracy' (p. 409). Paterson (2014) cites four concerns that have curtailed progress towards 'a firmly intellectual, somewhat merit selective, liberal tradition' in Scottish education. Three of which - changes in the philosophy and design of senior school examinations, the OECD (2007) report which criticised the academic tradition in Scottish education, and ongoing concerns in teacher education programmes about the academic nature of professionalism - are not of direct concern in this paper. However, the fourth is the emphasis of CfE, misguided as it is in Paterson's (2014) view by the focus on generic skills and enhancing learners' capabilities relative to experiencing the cultural benefits of a liberal education. This view reflects the concerns social realist writers in education (e.g., Rata, 2012) have highlighted over the trend they perceive for new curriculum models to downgrade subject knowledge in learning and teaching (Priestley & Sinnema, 2014).

Therefore, the apparent settled endorsement for comprehensive schooling is not without its ongoing conceptual, curriculum and pedagogical challenges, and to the fore in this respect is fulfilling the policy expectation that 'interdisciplinary learning' can along with 'curriculum areas and subjects', 'the ethos and life of the school as a community' and 'opportunities for personal achievement' successfully become one of four generic contexts for learning and teaching (Scottish Government, 2008). Within interdisciplinary learning, Humes (2013b) highlights four issues which are pivotal to effective practice: conceptual clarity on interdisciplinarity; ensuring interdisciplinary connections are credible and intellectually robust; effective links to pedagogical strategies and overcoming school-based operational hindrances. Humes (2013b) identification of these issues is helpful; for as Ralston (2011) notes, it has often been easier to define in the

negative what interdisciplinary learning means (i.e., not traditional, fragmented and compartmentalised subject teaching with passive learners) rather than being more certain about what the key constituents of interdisciplinary learning are.

The relevance of John Dewey

In moving forward, this paper critiques interdisciplinary learning from a predominantly Deweyan perspective, as whether stated explicitly or otherwise, many of the progressivist-based attempts to modernise curriculum are underpinned by Deweyan conceptions of: the child and the curriculum (Dewey, 1902); interest and effort in education (Dewey, 1913); learners' wider educational growth (Dewey, 1916); increasing teacher agency to develop effective pedagogical strategies (Dewey, 1920) and cultivating stable habits (Dewey, 1922). However, enthusiasm to engage with Dewey's writings is not shared by everyone. Boostrom (2016, p. 4), for example, is perplexed by Dewey's 'legendary status as the father of all things educational', as there is evidence of Dewey being cited rather than read. As such, references to Dewey and the practices of public schooling are often 'simply a decorative flourish, in the manner of the oral tradition of citing the generations of the tribe or the epic tradition of invoking the gods' (Boostrom, 2016, p. 7). Pring (2007, p. 4) also notes that in the 1970s and 1980s, Dewey was of 'minority academic interest' to almost everyone other than those training teachers in colleges of education. During this period, Peters (1977, p. 103) cites *Democracy and Education* (Dewey, 1916) as being 'a puzzling book', containing as it does a great deal about education but relatively little discussion on the concept of democracy being advanced. And, while Stone (2016) considers that this is to be expected, given that *Democracy and Education* was written fundamentally as a textbook for teachers, it does highlight some of the contrasting views there are on Dewey's work, and of how making coherent progress requires wrestling with many of the complexities, conundrums and problems of omission which surround Dewey's writing output. Furthermore, these challenges are ongoing, as there is unease that Dewey's concept of learning takes place amidst concerns about science related methods of enquiry (e.g. testing hypothesis against expected consequences) being of limited use in extending democracy. For example, Rogers (2009, p. 3) considers that the ever increasing specialised knowledge and the complex nature of problem solving can often result in the 'potential eclipse of the public by a form of power that is grounded in expert knowledge and harnessed by political elites.' That said, Waks considers that the humanity of Dewey still has a lot to offer in current times, as Dewey's emphasis on the professionalism of educators and sustainability and peace can avoid national systems of education becoming overly parochial relative to prominent global imperatives (Waks, 2007). In this light, *Democracy and Education* is pivotal in outlining the extent to which national education systems can transcend nationality and 'promote broadly shared interests and free interchange among individuals from distinct national groups' Waks (2007, p. 29).

On balance therefore the paper takes forward some of Dewey's main conceptual ideas on education (particularly those related to interdisciplinary learning), not on the basis of advocating Dewey but through recognising that a century on from the publication of *Democracy and Education* (Dewey, 1916) - *a third watershed moment* - it is worthwhile investigating whether Dewey's ideas have relevance and traction in contemporary times. The OECD (2015) reviewed what a watershed moment might mean and distinguished between: the neutral (transition point); the positive (time to bear fruit); the negative (make or break) and the new (time when greater boldness is required). They recommend the latter (the new watershed) as the approach to

underscore further CfE developments and this is also the approach adopted with regard to evaluating the theorising of Dewey. Therefore, following a brief elaboration of the CfE policy context, Deweyan thinking particularly from works prior to the publication of *Democracy and Education* (i.e., between 1897-1913) are reviewed from conceptual, curriculum and pedagogical viewpoints prior to considering the overall possibilities for greater interdisciplinary learning in Scottish schools which might exist.

Curriculum for Excellence in Scotland: a brief introduction

The national debate on education in 2002 reported excellent relationships between teachers and parents and pupils, and a strong commitment towards comprehensive schooling. However, in order to reflect global changes, there was a perception that curriculum aims needed review. Against this backdrop a short-life Curriculum Review Group was established with the aim of anticipating twenty-first century educational needs. Their report (Scottish Executive, 2004) elaborates on enhancing four generic learning capacities i.e., for young people to become ‘successful learners’, ‘confident individuals’, ‘effective contributors’ and ‘responsible citizens’ within a framework that encourages teachers to make greater use of their increased professional autonomy and decision-making responsibilities when reviewing curriculum plans and pedagogical intentions. Overall, CfE is considered to represent ‘a bold attempt to build on the strengths of Scottish education whilst introducing a radical new approach to prepare children and young people to address some of the challenges they would face beyond school in the twenty-first century’ (Drew, 2013, p. 502). CfE guidance predominantly focuses on how broad declarations of ambition can be realised within a more tightly defined experiences-and-outcomes based curriculum framework. Prior to the launch of CfE in 2011-2012, a series of *Building the Curriculum* publications issued between 2006 and 2010 emphasized (amongst other things) curriculum areas (Scottish Executive, 2006) and on how learning in the CfE capacities could be realized through the familiar subject areas of language, mathematics, science, expressive arts, social studies, technologies, religious and moral education along with the new disciplinary area of health and wellbeing and via four identified contexts of learning i.e., the ethos and life of the school as a community, curriculum areas and subjects, interdisciplinary learning and opportunities for personal achievement) which are collectively designed to help learners identify and take on more responsibility for their progress (Scottish Government, 2008).

Arguably retaining subject groupings appears to refute CfE claims of ambitious change (Priestley & Humes, 2010). Reform Scotland (2013), a Scottish-based public policy institute, certainly found it surprising that one of the *Building the Curriculum* publications was not devoted to interdisciplinary learning, given its heightened curriculum emphasis and the complex enactment challenges there are in making interdisciplinary learning a coherent learning experience for learners. This is especially so, as *Building the Curriculum 4* (Scottish Government, 2009) which might have been expected to emphasize knowledge and skills connections was ‘widely seen as the least satisfactory document in the series’ (Reform Scotland, 2013, p. 20). A Learning and Teaching Scotland (2010) paper on interdisciplinary learning, while brief (12 pages) and only containing references to other CfE documents and embryonic classroom examples, was more elaborate in highlighting certain key features of interdisciplinary learning. For example, the possibility that there might be overlapping versions of interdisciplinary learning were outlined: one version being more akin to cross-curricular learning as it features learning from different subjects to explore a theme; the other based on understanding and appreciating connections and

differences between subjects, and of how this influences ways of perceiving and engaging with learning tasks. It is the latter approach which Drew (2013, p. 509) considers more flexible, engaging and authentic, as it raises the possibility that ‘complex questions may be initiated from the pupils themselves’. Adopting approaches where there is ‘space and opportunity to respond to children and young people’s learning and their proposals for further learning’ (LTS, 2010, p. 5) dovetails with CfE plans that the experiences and outcomes are ‘packaged in different ways appropriate to the individual child or young person’ (Scottish Government, 2008, p. 35). In evaluating CfE implementation, the OECD (2015, p. 43) recognizes that the ‘expectation of promoting connection across fields and settings of learning, calls for demanding professionalism.’ In recognition of this, the intention is that Education Scotland will continue to work with teachers to identify significant aspects of learning in order to promote connectedness and inform teachers’ holistic intentions and judgements (OECD, 2015). In this way, identified themes across learning such as economic sustainability can be investigated from a range of interconnected social, environmental and moral perspectives. However, as Bryce and Humes (2013, p. 58) note, to date ‘one would have to admit to a mixed picture across secondary schools ... as ... very many school departments hang on to their subject territories, often resorting to timetable rotations rather than finding ways of bringing about integration meaningfully.’

Overtaking these types of interdisciplinary challenges may have been lessened if CfE had been clearer about its theoretical underpinnings. As Humes (2013a, p. 19) notes, there ‘is no extended philosophical justification for the particular values which are highlighted: they are asserted rather than argued for.’ Therefore, the extent to which CfE is an ambitious, progressive and transformative programme of education is open to doubt (Priestley & Biesta, 2013). Furthermore, as far as effective interdisciplinary teaching is concerned, policy plans remain ‘well-intentioned but rather ill-defined’ (Humes (2013b, p. 82). Addressing these types of concerns matters, for as Lingard and McGregor (2013, p. 210) note, the ‘New Basics’ programme in Queensland, Australia which ‘had quite a bit in common with Scotland’s Curriculum for Excellence’ has since ‘passed into the dustbin of Queensland educational history’ due to political unease about the comparative standards of educational achievement being realised (Lingard & McGregor, 2013, p. 225). Therefore, while OECD (2015) reporting praised the patient and consensual approach to policy making as an effective way of strengthening core concepts and realizing the full potential of CfE, its downside may be that the generally streamlined approach to policy making adopted under acknowledges a number of conceptual, curricular, pedagogical and concerns, a major one of which is interdisciplinary learning (Priestley & Biesta, 2013).

Dewey and interdisciplinary learning

Conceptions of curriculum integration and interdisciplinary learning

Providing definitional clarity on the differences between versions of curriculum integration and interdisciplinary learning is pivotal to comprehending the extent to which Dewey’s ideas might beneficially connect with the Scottish curriculum context. Pring (1971) identifies integration with unity, a concern for transformational meaning, synthesis, and a greater structure and organisation in learning (relative to the more disjointed nature of traditional subject teaching). In elaborating further, Pring (1971) maps out four types of curriculum integration: a strong thesis based on the unity of *all* knowledge; a weak (more restricted) thesis based on the unity of knowledge within broad fields of experience; using problem-solving methods where the unity of

knowledge is in the enquiry of the learner; and the interrelationship of disciplines. On this basis, Pring (1971, p. 184) considers that the integration of knowledge and interdisciplinary enquiry are on 'different logical levels', as integration builds on the idea of unity between forms of knowledge and their respective 'subjects' while interdisciplinary enquiry merely chooses to make use of more than one discipline when pursuing enquiry. On these terms, Deweyan thinking about the nature and integration of knowledge contrasts with interdisciplinary learning: based as the former is on accommodating and assimilating new holistic experiences in shared social contexts; relative to the latter where the focus is on recognising to a greater degree the disciplinary status of subjects. However, relative to the classification of Pring (1971) it may well be that the weak thesis (i.e., based on the unity of knowledge within broad fields of experience) could connect plausibly with the flexible and authentic version of interdisciplinary learning highlighted earlier by Drew (2013) when reviewing Scottish policy expectations. That said if enacted less precisely e.g., if many more subject choice options are offered and/or utilised when pursuing enquiry, the version of interdisciplinary learning offered would be something closer to cross-curricular learning, where different subjects are accessed (but not integrated) when exploring themes (Learning and Teaching Scotland, 2010). Therefore, the extent to which CfE privileges a view of interdisciplinary learning which is close to holistic understanding and ambitious curriculum change remains to be seen. For there is a conceptual difference between Deweyan informed problem-solving methods, where the unity of knowledge is in the enquiry of the learner and the weak integration thesis where unity of knowledge arises from engagement with certain (albeit flexibly interpreted) areas of knowledge. Those seeking policy guidance on this matter might be disappointed; for *Building the Curriculum 3* (Scottish Government, 2008, p. 21) only offers a half page of general guidance notes. These broadly reflect the perspectives briefly sketched (i.e., problem-solving enquiry and weak integration thesis), as evident by statements such as the curriculum 'should include space for learning beyond subject boundaries' and revisiting 'a concept or skill from different perspectives deepens understanding and can also make the curriculum more coherent and meaningful from the learner's point of view.' Therefore, there is merit in reviewing further the work of Dewey in relation to integrated and interdisciplinary learning.

Dewey and interdisciplinary curriculum planning

Central to Dewey educational thinking was the idea that project-based enquiry could interest and motivate learners to engage with the knowledge needed to embark and sustain a process of continually interacting and reconstructing experiences (Dewey, 1916). In this way, the pragmatic quest for unity between experience and knowledge, pursued through personal growth, could overcome the dualism which might otherwise exist between the child and the curriculum and the school and society. As such, 'the teacher should be occupied not with subject matter in itself but in its interaction with the pupils' present needs and capacities' (Dewey, 1916, p. 191), especially when problem-based activities are part of shared learning and where there is a willingness to communicate experiences and findings. Therefore, for Dewey (1916) considerations of educational value did not contain a hierarchy of specialised subject ends. Rather, there was merit in merging the humanistic with naturalistic studies than following dualist tradition, where learning materials and contexts were often isolated from learners' previous experiences in and beyond school. As Dewey (1916, p. 140) notes, being disciplinary stifles 'every question, subdued every doubt and removed the subject from the realm of rational discussion' ... (and then when the learner loses interest and) ... 'the fault lay with him, not with the study or methods of

teaching.’ Therefore, the ‘remedy for the evils attending the doctrine of formal discipline ... is not to be found by substituting a doctrine of specialised disciplines but by reforming the notion of mind and its training’ (Dewey, 1916, p. 139). What is required are outcomes (ends) where learners ‘recognize they have something at stake, and which cannot be carried through without reflection and use of judgement to select material of observation and recollection’ (Dewey, 1916, p. 139). On this basis, learners will have an interest in areas which are consistent with their desires. Therefore, following Dewey (1916, p. 137) ‘interest is an educative development which leads to considering individual children according to their specific capabilities, needs and preferences’ and where self-determination pursued through the metaphor of growth can explain the link between education and a democratic and participative way of life.

Dewey’s theorizing on methods of enquiry for the most part took precedence over matters over defining curriculum content. This has led to variance in the ways Dewey’s guidance has been taken forward. Webster (2009), for example, considers that Dewey’s scientific-based methods has been drawn on problematically by policy makers who have connected these methods with a managerial-type best practices view of planning and teacher accountability, rather than focussing on evaluative criteria such as thinking, choice, interaction and fostering growth. In this respect, the OECD (2015, p. 17) report can be read as an encouraging, as it recognises that ‘top-down leadership ... is unsuited to directing the bold commitments to innovation and improvement that are represented in CfE.’ The OECD (2015, p. 17) advocates leading not only ‘*in the middle* but *from the middle*’ (original emphasis retained) in order to build partnerships and consensus-building, and to strengthen new networks and collaborations among schools in order to ensure that CfE can develop authentically and at a sustainable rate.

Similarly, around the time *Democracy and Education* was published, Jonas (2011) notes that Dewey was concerned with how public education was at a crossroads as ‘we have nationally imposed standards which some argue force teachers to sacrifice educational practices that foster interest, and simultaneously a movement within the schools to choose curricula that is relevant (read interesting) to students’ (p. 127). In the two decades before the publication of *Democracy and Education* Dewey tried to lessen the ambiguity in his writings by moving from seeing a relatively direct connection between *interest* and *impulses* to a position where interests could provide leverage through signposting how desires and the needs of learners could foster interest (Jonas, 2011). For example, in *My Pedagogic Creed* (1897) Dewey made statements such ‘we violate the child’s nature and render difficult the best ethical results, by introducing the child too abruptly to a number of special studies, of reading, writing, geography etc’ (p. 89) and ‘the question of method is ultimately reducible to the question of the order of development of the child’s powers and interests’ (p. 91) and ‘the neglect of this principle is the cause of a large part of the waste of time’ in school work. ... The conditions are such that he is not permitted to follow the law of his nature; the result is friction and waste’ (p. 91). However, by 1913, Dewey (1913, p. 62) was more obviously noting concerns about:

... what specific subject-matter is so connected with the growth of the child’s existing concrete capabilities as to give it a moving force. What is needed is not an inventory of personal motives which we suppose children to have but consideration of their *powers*, their tendencies in action, and the ways in which these can be carried forward by a given subject-matter.

and the contribution of the teacher as subject knowledge expert, as evident when stating later that:

To the one who is learned, subject matter is extensive, accurately defined, and logically interrelated. To the one who is learning, it is fluid, partial and connected through his personal occupations. The problem of teaching is to keep the experience of the student moving in the direction of what the expert already knows. Hence the need that the teacher knows both subject matter and the characteristic needs and capacities of the student.

Dewey (1916, pp. 191/192).

Jonas (2011) considers that helping teachers to comprehend these philosophical gradations of interest will help them to seek out new ways of engaging with learners, as evident by the type of questions asked, the ways tasks are described and the connections which are made between areas of shared interest among learners. Crucial to taking this remit forward is appreciating how Dewey (1916, p. 136) considered that ‘interest and discipline are connected, not opposed’, and of how there are two types of interest: interest and engagement in activity which leads to accompanying feelings of pleasure and self-expression (*immediate interest*), and interest which arises within the learner in relation to the subject (*mediate interest*). Teachers’ role with regard to the latter is to show how ‘interest can be mediated from one object or activity to other objects or activities related to it’ (Jonas, 2011, p. 117). In this way, the means for reaching outcomes become interesting for learners. To connect interest with outcomes requires *effort* and the task for the teacher as curriculum planner is to select tasks which will encourage mediated interest in learning in ways that connect self-expression with the achievement of ends (Dewey, 1896; 1913). If effective, learners can come to realise new interests across the curriculum e.g., in an interdisciplinary sense, learners interest in sustainable living could trigger interest across a range of perspectives - economic, ecological, social, moral. So, in summary, teachers should avoid trying to connect curriculum arrangements with the interests of learners or oppositely match the interests of learners with curriculum arrangements. Instead, learners will thrive in environments where impulses and desires enable learners to develop new interests; very often when learning in cooperation with others. However, as will now be discussed, teachers under these intentions face the challenge of passing on knowledge ‘while at the same time allowing knowledge that is passed on to be criticised and revised by the learner’ (English, 2010, p. 75).

Dewey and interdisciplinary pedagogical approaches

As noted, Dewey was pivotal to theorizing which tried to reconcile conservative debates on the virtues and benefits of imposing mental discipline on learners and arguments favouring learning experiences that were interesting and relevant for learners. In ‘the context of his war on epistemology and his fuller articulation of the ethical ideas of democracy’ (Westbrook, 1991, p. 169), Dewey considered that teachers should help learners to think scientifically, as without ‘the scientific spirit one is not in possession of the best tools which humanity has so far devised for effectively directed reflection’ (Dewey, 1916, p. 197). Thus engaged, learners would be able to reach judgements of value as well as judgements of fact (Westbrook, 1991). As English (2010, p. 87) notes, following Dewey, the reflective process of learning has the potential to ‘change old habits, discover new ways of treating people, find different ideas and ways of thinking about the world that were previously beyond one’s grasp.’ Viewed this way, it is evident that ‘Dewey understood that education was more of an art than a science, and yet he contended that it is most

valuable for us as teachers to *be* (original emphasis retained) scientific in order to make our teaching art as intelligent as possible' (Webster, 2009, p. 221). This blended approach is evident when Dewey (1916, p. 144) noted that to 'organise education so that natural active tendencies shall be fully enlisted in doing something ... requires observation, the acquisition of information and the use of a constructive imagination ... to improve social conditions.' Progress in these ways would meet Doddington's (2014) imperative that engaging with Dewey's ideas on experience and community needs to be apparent in the quality of learners' engagement e.g., through contributing to open-ended discussions and listening and sharing ideas with others. Making suitably sensitized decisions in these contexts requires educators to avoid being overly drawn towards pre-established decision-making routines or to make judgements that are overly subjective. Under these arrangements, experiences should be secure and organised enough for teachers to occasionally disrupt existing understandings and build participatory virtues among learners.

Those looking to Dewey for more detailed pedagogical 'toolkit' type guidance may be disappointed however for Dewey was skeptical about universal learning solutions and offered instead an encouragement for teachers to support learning where learners were living more emotionally engaged and imaginative lives amidst the conflicts which are an everyday feature of life. Dewey's pedagogical intentions were therefore governed by the part the teacher plays in prompting enquiry and constructing group dialogue, so that learners can be supported to take on substantial responsibility for their learning and be engaged in choice-related decision-making that helps them to enhance their skills in exercising agency (Rogers, 2009). In this way, improved communication should become the driver for improved educational processes and improved democratic functioning. Dewey (1916, p. 134) recommends that where an activity takes time, deliberation and persistence are required in order to overcome the obstacles which lie between initiation and completion. Ralston (2010, p. 23) considers that deliberation could be a potential group activity which transforms 'individual preferences and behaviour into mutual understanding, agreement, and collective action.' Similarly, thought and foresight rather than reactive routines and familiar decision-making are needed, as with these types of intentions the teacher can anticipate the types of decisions learners might make when presented with choices, and design strategies and alternatives which direct learners towards gaining the greatest possible benefit from their experiences.

Curriculum for Excellence and interdisciplinary learning

In reviewing the work of John Dewey relative to interdisciplinary learning and its potential contribution within the current Scottish policy context, two main issues emerges; the role of learner autonomy in curriculum engagement (Hedge & Mackenzie, 2016) and the extent to which Dewey's advice on methods might result in greater boldness in school level planning (Webster, 2009). Concerns surrounding the conceptual tensions between Deweyan informed problem-solving methods and the weak integration thesis outlined by Pring (1971) have been addressed indirectly by Hedge and Mackenzie (2016). This is evident through their focus on the relationship between learners' interest and knowledge imperatives and by reviewing relational autonomy as part of a greater CfE related commitment towards personalisation and choice. Hedge and Mackenzie (2016, p. 8) consider that interdisciplinary learning can contribute to learners learning 'not only facts, but conceptual schema, and techniques of different types of reasoning, judgement, evaluation, assessment and so on, gained from learning with others, alone

and across disciplines.’ If successful, progress could lead to a balance being achieved between uniformity and diversity, as desired within comprehensive schooling (Murphy et al., 2015b) and to interdisciplinary treatments of issues or topics transcending the different disciplines (Pring, 1971). It might as well go some way to meeting Humes (2013b) requirement that interdisciplinary connections are credible and intellectually robust.

However, as Wrigley, Lingard and Thomson (2012, p. 102) note ‘transformational change requires us to consider structures as well as cultures.’ Therefore, even if Scotland’s enthusiasm for comprehensive schools remains will greater boldness be evident with regard to school organisation (e.g., in how groupings of learners are planned and how time is used on a day/week/year basis), or will there be a continuing conservatism and complacency (e.g., as evident by teachers appearing reluctant to use the autonomy and greater planning and pedagogical discretion available to them).

Certainly relative to the ambition within *Schools of Tomorrow* (J & E Dewey, 1915) there is cause for concern, for as Cremin (1961) notes, the further one reads in *Schools of Tomorrow* the more comprehensive the examples become with the schools of Gary, Indiana, coming last and elaborated on in most detail. The Gary Schools Plan in Gary Indiana (a new steel making city on the southern shores of Lake Michigan) were organised around ‘the notion that schools should offer a maximum of education and social services while pedagogically running at full throttle, much like the nearby industrial plants’ (Reese, 2002, p. 10). The scope of William Wirt’s vision as the first superintendent of schools in Gary meant that by 1911 many teachers and social reformers, both nationally (including Evelyn Dewey) and internationally were interested in visiting the Gary schools with visitor numbers needing capped and access restricted at times (Levine & Levine, 1970). Under the Gary plan, schools merged a progressive focus on academic subjects and vocational education with the combination of intellectual and practical teaching extending into the evening with further time available for additional work in areas of interest. Learners were also able to proceed at their own pace within a self-sustaining learning community. Even though there is some dubiety on whether Dewey’s interpretation of the Gary Schools plan is sufficiently critical (Westbrook, 1991), there is relative to the scope of the Gary plan, a concern that the cultural (rather than structural) changes advocated by Hedge and Mackenzie (2016) may have a relatively modest outreach for extending learners autonomy compared to that which might be possible. Dewey (1916, p. 144) appears insightful and realistic therefore (relative to current Scottish times) when he notes that:

A reorganisation of education so that learning takes place in connection with the intelligent carrying forward of purposeful activities is a slow work. It can only be accomplished piecemeal, a step at a time. ... It is a challenge to undertake the task of reorganisation courageously and to keep to it persistently.

Conclusion

The paper has reviewed progressive educational intentions with regard to three interconnected and concurrent watershed moments in Scottish education: the end of the programme implementation phase of CfE; the half-century anniversary of comprehensive schooling and the centenary anniversary of the publication of *Democracy and Education* by John Dewey. Related to this review has been a more specific ongoing analysis of the potential of interdisciplinary learning to thrive as a context for learning as part of CfE in comprehensive schools, and the part

Dewey might play in guiding and informing progress. This analysis has involved reviewing contrasting definitions of integrated and interdisciplinary learning and the tensions there might be between the autonomy of the learner relative to the disciplinary status of knowledge and subjects. Within this policy context, it is difficult to be certain whether a new period of learning boldness is likely or whether notions such as interdisciplinary learning will fail to gain a foothold and traction in everyday learning and teaching. It has been argued nevertheless that by reviewing closely Dewey's pre *Democracy and Education* writings, especially with regard to Dewey's clarification of the importance of interest and effort, that there is scope for greater pedagogical experimentation within CfE. Whether school organisation is sufficiently flexible to help incorporate these ideas into everyday learning and teaching is much more open to question.

References

- Boostrom, R. (2016). The peculiar status of Democracy and Education, *Journal of Curriculum Studies*, 48, 4-22.
- Byrce, T.G.K. & Humes, W.H. (2013). The Distinctiveness of Scottish Education, in: T.G.K. Bryce, W.H. Humes, D. Gillies & A. Kennedy (Eds) *Scottish Education*. Edinburgh, University of Edinburgh Press, 50-63.
- Courtney, S. J. (2015). Mapping school types in England, *Oxford Review of Education*. Retrieved from <http://www.tandfonline.com/doi/full/10.1080/03054985.2015.1121141>
- Cremin, L.A. 1961. *The Transformation of the School: Progressivism in American Education, 1896-1957*. Knopf: New York.
- Dewey, J. (1896/1973). Interest in Relation to the Training of the Will, in: J. J. McDermott (ed.), *The Philosophy of John Dewey: The lived experience*. NewYork, Capricorn Books.
- Dewey, J. (1897/1972). Early Essays, in: J. A. Boydston (Ed.) *John Dewey: The Early Works (1895-1898)* Volume 5. Carbondale: Southern Illinois Press.
- Dewey, J. (1902/1973). The Child and the Curriculum, in: J. J. McDermott (ed.), *The Philosophy of John Dewey: The lived experience*. NewYork, Capricorn Books.
- Dewey, J. (1913/1969). *Interest and Effort in Education*. Bath, Cedric Chivers.
- Dewey, J. (1916/1980). Democracy and Education, in: J. A. Boydston (Ed.) *John Dewey: The Middle Works (1899-1924) Volume 9*. Carbondale, Southern Illinois Press.
- Dewey, J. (1920/1957). *Reconstruction in Philosophy*. Boston, Beacon Press.
- Dewey, J. (1922/2012). *Human Nature and Conduct*. New York, Digireads.
- Dewey, J. & Dewey, E. (1915/1980). Schools of Tomorrow, in: J. A. Boydston (Ed.) *John Dewey: The Middle Works (1899-1924) Volume 8*. Carbondale: Southern Illinois Press.

- Doddington, C. (2014). Philosophy, art or pedagogy: How should children experience education? *Educational Philosophy and Theory*, 46, 1258-1269.
- Drew, V. (2013). Curriculum for Excellence in the Secondary School, in: T.G.K. Bryce, W.H. Humes, D. Gillies & A. Kennedy (Eds) *Scottish Education*. Edinburgh, University of Edinburgh Press, 501-511.
- English, A. (2010). Transformation and Education: The Voice of the Learner in Peters' Concept of Teaching, *Journal of Philosophy of Education*, 43, 75-95.
- Hedge, N. & MacKenzie, A. (2016). Scotland's Curriculum for Excellence: a defence of autonomy and personhood, *Oxford Review of Education*, Retrieved from <http://dx.doi.org/10.1080/03054985.2015.1128890>
- Humes, W. (2013a). The Origins and Development of Curriculum for Excellence: Discourse, Politics and Control in: M. Priestley & G. Biesta (Eds) *Reinventing the Curriculum: New Trends in Curriculum Policy and Practice*. Bloomsbury, London, 13-34.
- Humes, W. H. (2013b). Curriculum for Excellence and Interdisciplinary Learning, *Scottish Educational Review*, 45, 82-93.
- Humes, W.H. & Bryce, T.G.K. (2013). The Distinctiveness of Scottish Education, in: T.G.K. Bryce, W.H. Humes, D. Gillies & A. Kennedy (Eds) *Scottish Education*. Edinburgh, University of Edinburgh Press, 128-150.
- Jonas, M. E. (2011). Dewey's conception of interest and its significance for teacher education, *Educational Philosophy and Theory*, 43, 112-129.
- Learning and Teaching Scotland. (2010). *Interdisciplinary Learning*. Retrieved from http://www.educationscotland.gov.uk/images/InterdisciplinaryLearning_tcm4-620626.pdf
- Levine, A. & Levine, M. (1970). Introduction to the New Edition, in: *The Gary Schools*. Cambridge, Massachusetts: The MIT Press.
- Lingard, B. & McGregor, G. (2013). High-Stakes Assessment and New Curricula: A Queensland Case of Competing Tensions in Curriculum Development, in: M. Priestley & G. Biesta (Eds) *Reinventing the Curriculum: New Trends in Curriculum Policy and Practice*, London, Bloomsbury, 207-228.
- MacBeath, J. (2013). Scenarios for the future of schooling and education, in: T.G.K. Bryce, W.H. Humes, D. Gillies & A. Kennedy (Eds) *Scottish Education*. Edinburgh, University of Edinburgh Press, 1012-1022.
- Murphy, D., Croxford, L. Howieson, C. & Raffe, D. (2015a). The values of comprehensive schooling, in: D. Murphy, L. Croxford, C. Howieson & D. Raffe (Eds) *Everyone's*

- Future: Lessons from fifty years of Scottish comprehensive schooling*. London, Trentham, 39-51.
- Murphy, D., Croxford, L. Howieson, C. & Raffe, D. (2015b). What have we learned from the Scottish experience? in: D. Murphy, L. Croxford, C. Howieson & D. Raffe (Eds) *Everyone's Future: Lessons from fifty years of Scottish comprehensive schooling*. London, Trentham, 196-205.
- Paterson, L. (2014). Competitive opportunity and liberal culture: the significance of Scottish education in the twentieth century, *British Educational Research Journal*, 40, 397-416.
- Peters, R.S. (1977). John Dewey's philosophy of education, in: Peters, R.S. (Ed) *John Dewey Reconsidered*. London, Routledge & Kegan Paul, 102-123.
- Priestley, M. & Humes, W. H. (2010). The Development of Scotland's Curriculum for Excellence: amnesia and déjà vu. *Oxford Review of Education*, 36, 345-361.
- Priestley, M. & Biesta, G. (Eds) (2013) *Reinventing the Curriculum: New Trends in Curriculum Policy and Practice*. London, Bloomsbury.
- Priestley, M. & Sinnema, C. (2014). Downgraded curriculum? An analysis of knowledge in new curricula in Scotland and New Zealand, *Curriculum Journal*, 29, 99-116.
- Pring, R. (1971). Curriculum Integration, *Journal of Philosophy of Education*, 5, 170-200.
- Pring, R. (2007). *John Dewey: A Philosopher of Education for Our Time?* London, Continuum.
- Organisation for Economic Co-operation and Development (2007). *Quality and Equity of Schooling in Scotland*. Paris: OECD.
- Organisation for Economic Co-operation and Development (2015). Improving schools in Scotland: an OECD perspective. Retrieved from <http://www.oecd.org/education/school/Improving-Schools-in-Scotland-An-OECD-Perspective.pdf>
- Ralston, S.J. (2010). Dewey's Theory of Moral (and Political) Deliberation Unfiltered, *Education and Culture*, 26, 23-43.
- Ralston, S.J. (2011). Interdisciplinarity: Some lessons from John Dewey, *American Dialectic*, 1, 309-321.
- Rata, E. (2012). *The politics of knowledge in education*. London: Routledge.
- Reese, W.J. (2013). In search of American progressives and teachers, *History of Education*, 42, 320-334.
- Reform Scotland and Centre for Scottish Public Policy (2013). *The Commission on School*

Reform Final Report. Retrieved from
<http://reformscotland.com/public/publications/bydiversemeans1.pdf>

- Roberts, A. (2013). The Independent Sector in: T.G.K. Bryce, W.H. Humes, D. Gillies & A. Kennedy (Eds.) *Scottish Education*. Edinburgh, University of Edinburgh Press, 120-128.
- Rogers, M.L. (2009). *The Undiscovered Dewey: Religion, Morality, and the Ethos of Democracy*. New York, Columbia University Press.
- Scottish Executive. (2004). *A Curriculum for Excellence: the curriculum review group*. Edinburgh, Scottish Executive.
- Scottish Executive. (2006) *Building the Curriculum 1: the contribution of curricular areas*. Edinburgh, Scottish Executive.
- Scottish Government. (2008). *Building the Curriculum 3: A Framework for Learning and Teaching*. Edinburgh, Scottish Government.
- Scottish Government. (2009). *Building the Curriculum 4: Skills for Learning, Skills for Work and Skills for Life*. Edinburgh, Scottish Government.
- Stone, L. (2016). Re-thinking Dewey's democracy: shifting from a process of participation to an institution of association, *Journal of Curriculum Studies*, 48, 77-93.
- Waks, L.J. (2007). Reading Democracy and Education Today: John Dewey on Globalization, Multiculturalism, and Democratic Education, *Education and Culture*, 23, 27-37.
- Webster, R.S. (2009). How evidence-based teaching practices are challenged by a Deweyan approach to education, *Asia-Pacific Journal of Teacher Education*, 37, 215-227.
- Westbrook, R.B. (1991). *John Dewey and American Democracy*. Ithaca, Cornell University Press.